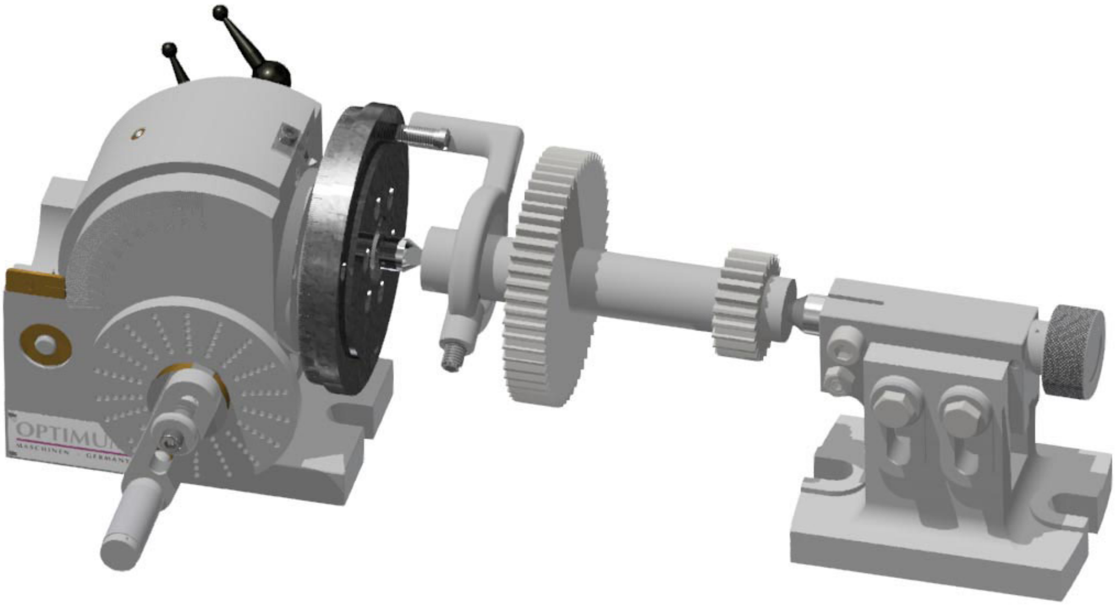
Operating Manual

Version 1.3.1

Universal dividing apparatus

TA125



1 Scope of application

The dividing apparatus TA 125 is used as accessory for milling and drilling machines and for other metal-working machines. The dividing apparatus is used to produce workpieces with certain divisions. The dividing apparatus is suited mostly for machining shafts between the centres of the dividing apparatus and the height-adjustable tailstock.

The angle of inclination of the dividing apparatus may be varied from - 10° to 90°.

Optionally, the direct dividing plate can hold the workpiece or a workpiece holder (three-jaw lathe chuck 130mm - part no. 3356100).

There are three ways of dividing:

- Dividing with the help of the scale dial 0° - 360°.
- Dividing with the direct dividing plate, catch position 15° .
- Dividing with index plates, also called indirect dividing ► TA125 pitch circle table on page 10.

2 Construction features

- Hardened and ground worm
- Precision taper roller bearings
- Transmission ratio 40:1
- A full circle of the handwheel corresponds to a movement of 9°
- Pivotable from -10° to 90°

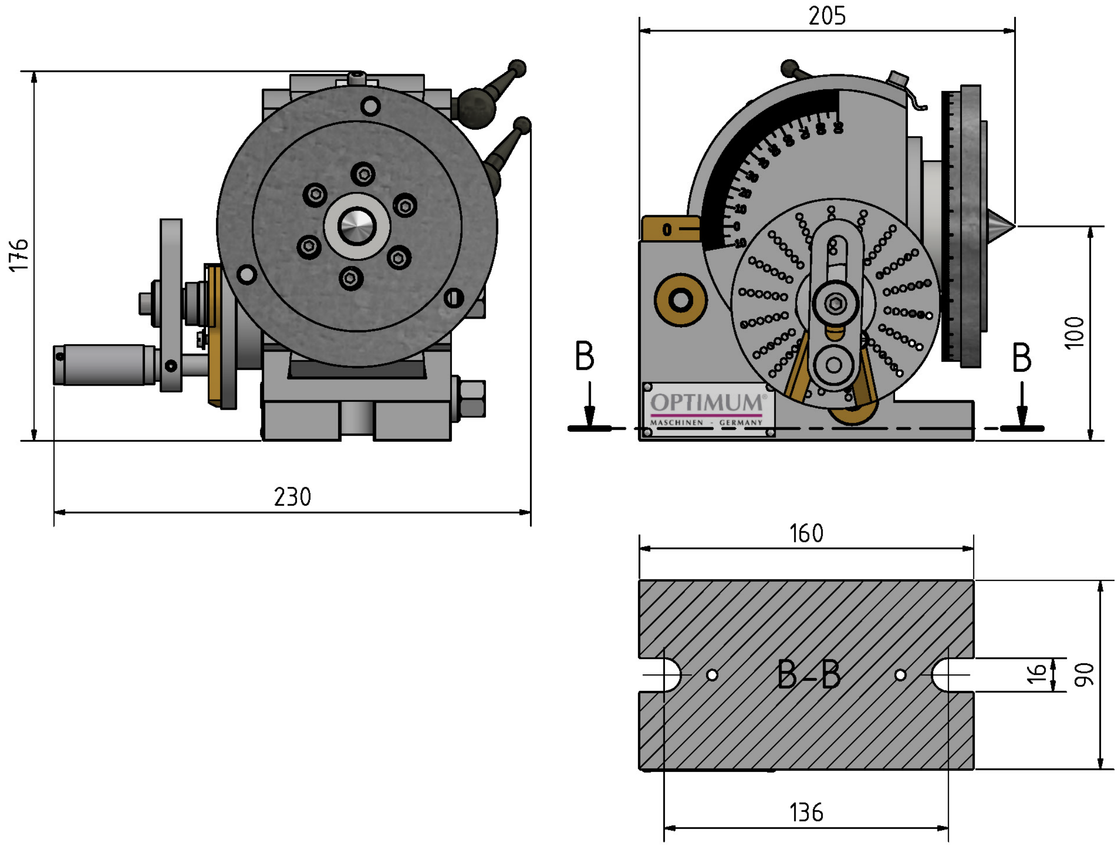
3 Technical specification

Dividing apparatus	TA 125
Overall height [mm]	175
Width [mm]	90
Length [mm]	205
Centre height [mm]	100
Bore hole in the holding shaft (capacity) [mm]	18
Direct index plate [division]	15°
	Ø 134mm ; hole circle 115mm - 3 x M8 Centering piece Ø 100mm
Indirect index plates [bore holes on the pitch circle]	15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 23 ; 27 ; 29 ; 31 ; 33 ; 37 ; 39 ; 41 ; 43 ; 47 ; 49

Dividing apparatus	TA 125 debit values
Dividing accuracy of worm drive [Angle degree] maximum cumulative spacing error	1’ 30"

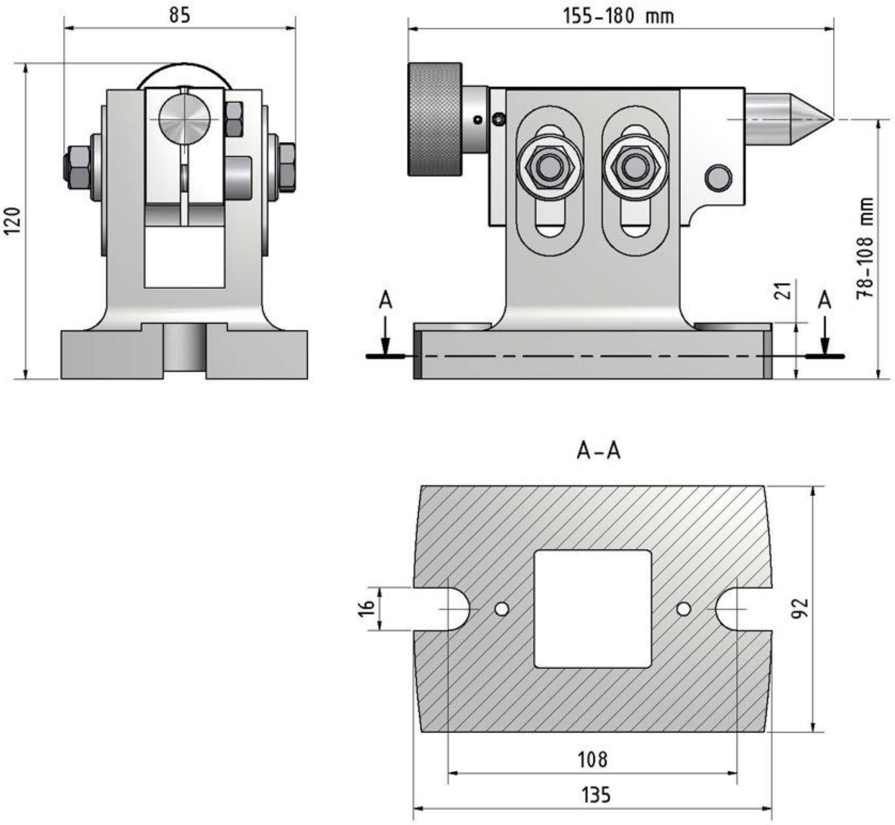
Dividing apparatus	TA 125 debit values
Run out of inside taper of dividing spindle [mm] o measured on the bore o measured at spindle at a distance of 200 mm	0.01 0.03
Alignment of dividing head to tailstock o in the vertical plane [mm] o in the horizontal plane [mm]	0.02 0.02
max. axial movement of dividing spindle [mm]	0.01
Run out [mm]	0.015

4 TA 125 dimensions



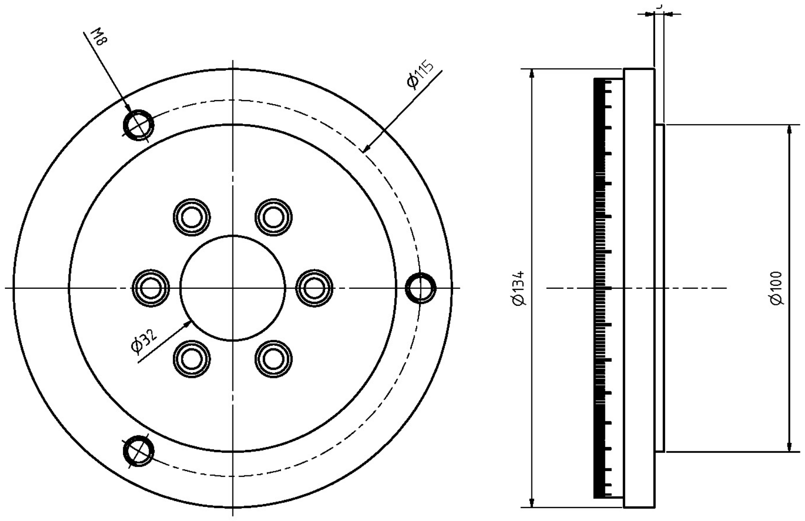
Img.4-1: TA 125 dimensions

4.1 Tailstock dimensions



Img. 4-2: Tailstock dimensions

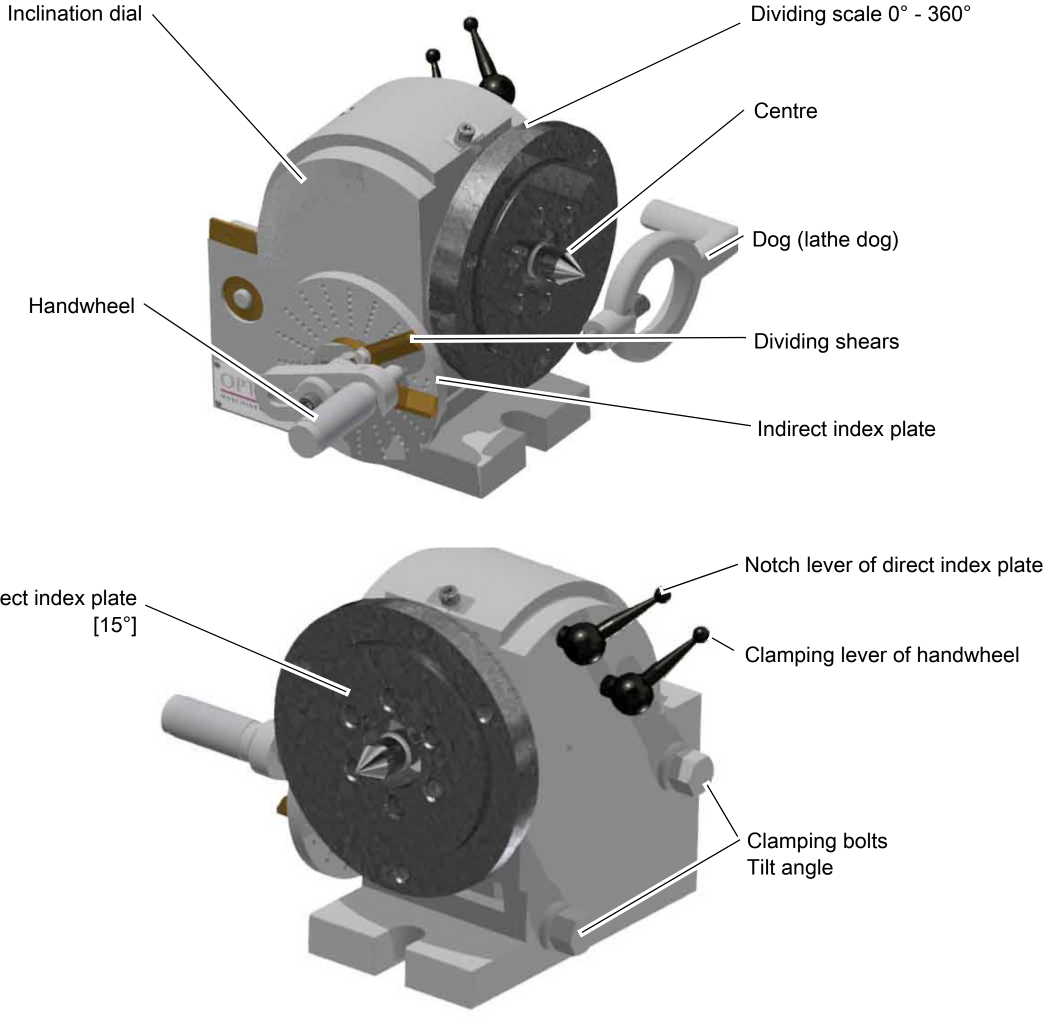
4.2 Direct dividing plate dimension



5 Scope of delivery

1 x	Dividing apparatus TA125	3 x	Indirect index plates
1 x	Centre	1 x	Lathe dog (dog)
1 x	Height-adjustable tailstock	1 x	Handle

6 Design and operation



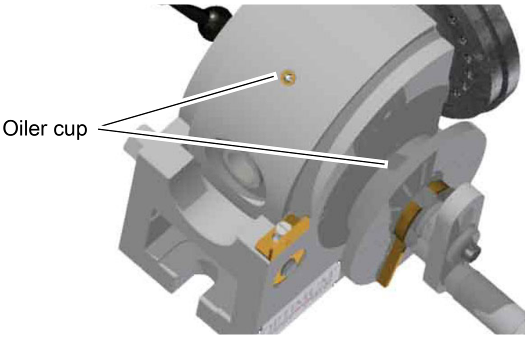
Img.6-1: TA 125

CAUTION!

Wear safety shoes when transporting or installing the index head.

7 Maintenance

Clean the dividing apparatus after use. Lubricate the dividing apparatus with a non-corrosive lubricating oil. Lubricate the worm via the oiler cups regularly.



Img.7-1: Oiler cup

8 Ersatzteile - Spare parts

8.1 Ersatzteilzeichnung TA 125 - Drawing spare parts TA 125

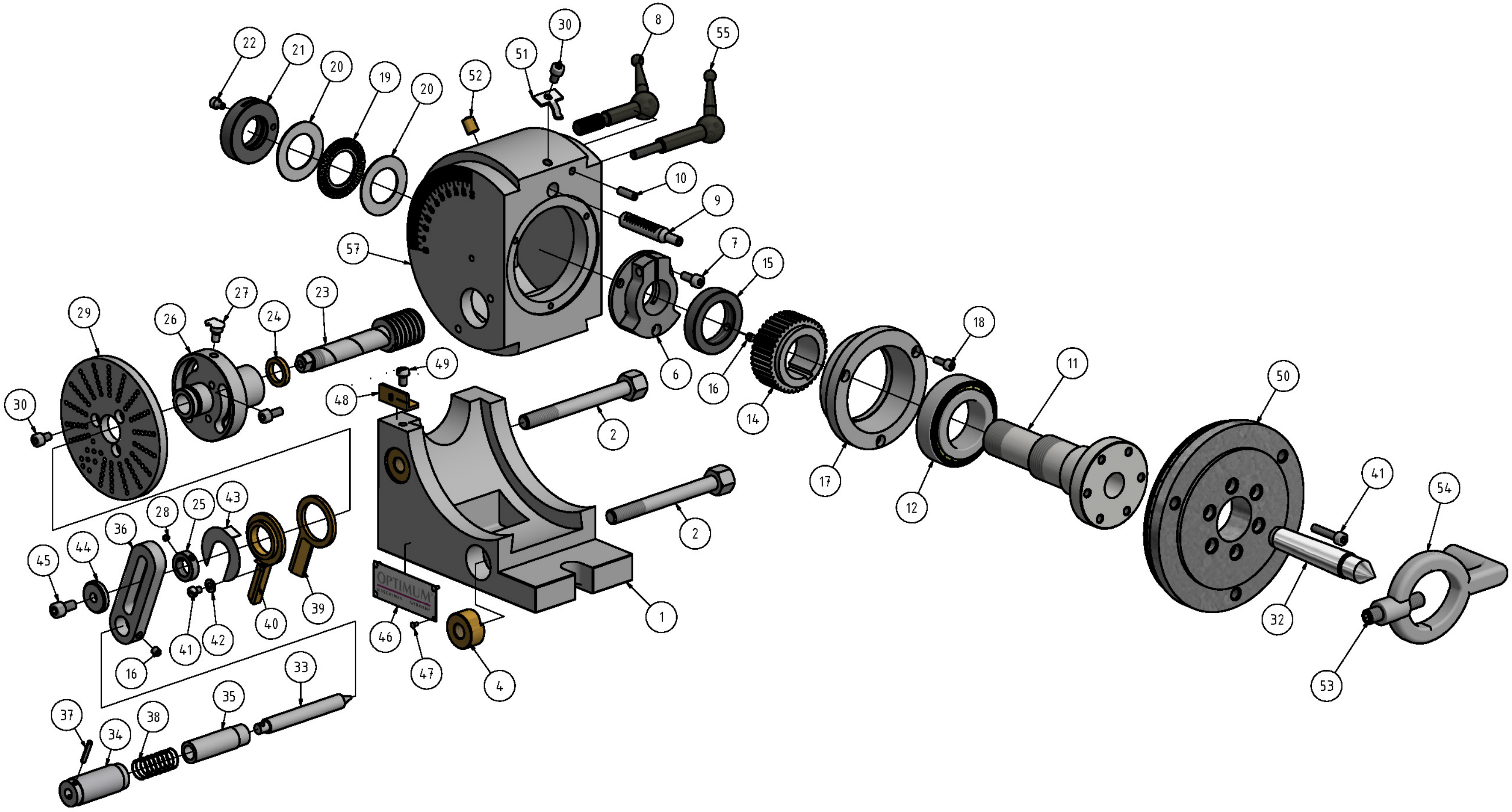


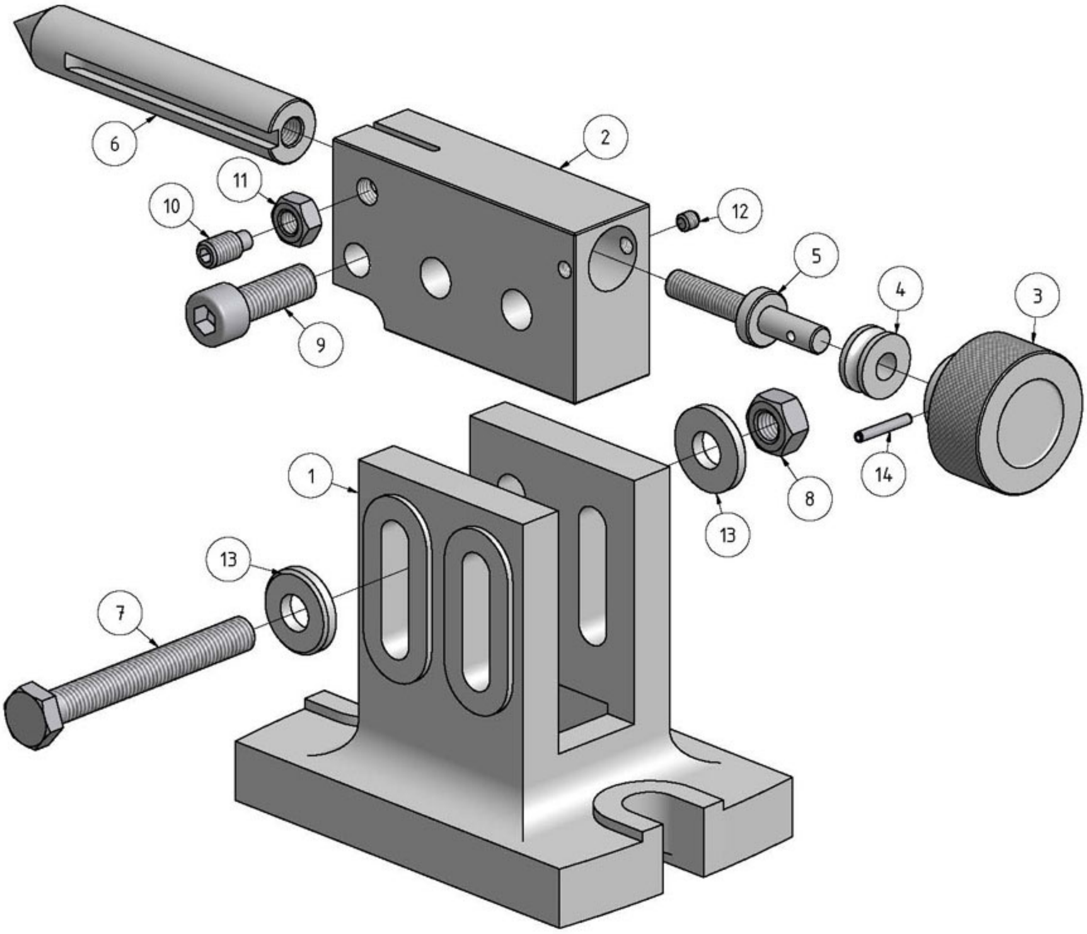
Fig. 8-1: TA 125

8.2 Ersatzteilliste - Spare part list

Pos.	Bezeichnung	Designation	Menge Qty.	Grösse Size	Artikelnummer Item no.
1	Unterteil	Base part	1		0335612502
2	Klemmschraube	Clamping screw	2		03356125021
3	Scheibe	Washer	2	10	
4	Klemmscheibe	Clamping screw	2		0335612504
5	Gehäuse	Housing	1		0335612505
6	Flansch	Flange	1		0335612513
7	Innensechskantschraube	Hexagon socket screw	5	ISO 4762 - M5 x 12	
8	Spannhebel	Clamping lever	2		0335612508
9	Klemmbolzen	Klamping bolt	1		0335612509
10	Gewindestift	Threaded pin	1	ISO 4026 - M5 x 16	
11	Spindel	Spindle	1	old type	0335612511
				new type	0335612511-1
12	Kegelrollenlager	Taper roller bearing	1	32007 X-Q	04032007
13	Passfeder	Fitting key	1	DIN 6885 - A 5 x 5 x 16	
14	Schneckenrad	Worm gear	1		0335612512
15	Spannmutter	Clamping nut	1		0335612515
16	Gewindestift	Threaded pin	2	ISO 4026 - M5 x 5	
17	Flansch	Flange	1		0335612517
18	Innensechskantschraube	Hexagon socket screw	3	ISO 4762 - M4 x 12	
19	Nadellager	Needle bearing	1	AXK 2542	0335612519
20	Lagerring	Bearing ring	2		0335612520
21	Klemmmutter	Clamping nut	1		0335612521
22	Innensechskantschraube	Hexagon socket screw	1	ISO 4762 - M4 x 6	
23	Schnecke	Worm	1		0335612523
24	Abstandsring	Spacer	1		0335612524
25	Ring	Ring	1		0335612525
26	Flansch	Flange	1		0335612526
27	Öler	Oiler	1		0335612527
28	Gewindestift	Threaded pin	2	ISO 4026 - M4 x 3	
29	Teilscheibe 15 - 20	Dividing plate 15 - 20	1		0335612529
29	Teilscheibe 21 - 33	Dividing plate 21 - 33	1		03356125291
29	Teilscheibe 37 - 49	Dividing plate 37 - 49	1		03356125292
30	Innensechskantschraube	Hexagon socket screw	4	ISO 4762 - M5 x 8	
31	Futterflansch 140mm	Flange for lathe chuck 140 mm	1	old type	0335612531
	Flansch	Flange	1	new type	0335612531-1
32	Zentrierspitze MK2	Center point MT2	1		0335612532
33	Stift	Pin	1		0335612533
34	Griff	Grip	1		0335612534
35	Hülse	Sleeve	1		0335612535
36	Hebel	Lever	1		0335612536
37	Spannstift	Locking pin	1	ISO 8752 - 3 x 18 A	
38	Feder	Spring	1		0335612538
39	Winkelschere	Angle shear	1		0335612539
40	Winkelschere	Angle shear	1		0335612540

Pos.	Bezeichnung	Designation	Menge Qty.	Grösse Size	Artikelnummer Item no.
41	Schraube	Screw	4	ISO 1207 - M4 x 6 (old type)	
	Schraube	Screw	6	M5 x 50 (new type)	
42	Scheibe	Washer	1	DIN 125 - A 4,3	
43	Federblech	Spring steel sheet	1		0335612543
44	Scheibe	Washer	1		0335612544
45	Innensechskantschraube	Hexagon socket screw	1	ISO 4762 - M6 x 12	
46	Label Optimum	Label Optimum	1		0335612546
47	Niet	Rivet	4		0335612547
48	Skala	Scale	1		0335612548
49	Schraube	Screw	1	ISO 1207 - M5 x 8	
50	Direkt Teilscheibe	Direct dividing plate	1	old type	0335612550
	Direkt Teilscheibe	Direct dividing plate	1	new type	0335612550-1
51	Zeiger	Indicator	1		0335612551
52	Öler	Oiler	1	8 mm	0335612552
53	Stiftschraube	Threaded pin	1	M10 x 50	
54	Mitnehmer	Dog	1	old type	0335612503
	Mitnehmer (Drehherz)	Dog (Lathe dog)	1	new type	0335612503-1
55	Hebel	Lever	1		0335612555
	Handrad kpl.	Handle cpl.			0335612556
57	Gehäuse	Hausing	1		0335612557

8.3 Ersatzteilzeichnung Reitstock- Drawing spare parts tailstock



Img.8-2: Reitstock - Tailstock

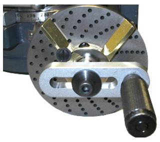
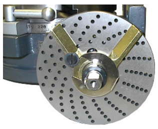
8.4 Ersatzteilliste - Spare part list

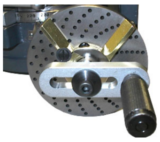
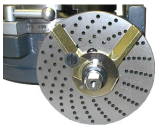
Pos.	Bezeichnung	Designation	Menge Qty.	Grösse Size	Artikelnummer Item no.
1	Sockel	Base	1		0335615501
2	Kopf	Header	1		0335615502
3	Rändelschraube	Knurled screw	1		
4	Rolle	Roll	1		
5	Spindel	Spindle	1		0335615506
6	Spitze	Cone point	1		0335615505
7	Sechskantschraube	Hexagon screw	2	ISO 4017 - M10 x 80	
8	Sechskantmutter	Hexagon nut	2	ISO 4032 - M10	
9	Innensechskantschraube	Hexagon socket screw	1	ISO 4762 - M10 x 30	
10	Gewindestift	Grub screw	1	ISO 4028 - M8 x 16	
11	Sechskantmutter	Hexagon nut	1	ISO 4032 - M8	
12	Gewindestift	Grub screw	2	ISO 4026 - M5 x 5	
13	Scheibe	Washer	4		
14	Spannstift	Locking pin	1	ISO 8752 - 3 x 20 A	

9 TA125 pitch circle table

INFORMATION

If the divisions you want are not included in the following tables, you must have an index head with an optional compensating division installed.

																			
		Valid for transmission ratio 40 : 1																	
Division	Circles	Pitch circle																	
		15	16	17	18	19	20	21	23	27	29	31	33	37	39	41	43	47	49
1	40																		
2	20																		
3	13	5			6			7		9			11		13				
4	10																		
5	8																		
6	6	10			12			14		18			22		26				
7	5							15											35
8	5																		
9	4				8					12									
10	4																		
11	3												21						
12	3	5			6			7		9			11		13				
13	3														3				
14	2							18											42
15	2	10			12			14		18			22		26				
16	2		8		9		10												
17	2			6															
18	2				4					6									
19	2					2													
20	2																		
21	1							19											
22	1												27						
23	1								17										
24	1	10			12			14		18			22		26				
25	1	9					12												
26	1														21				
27	1									13									
28	1							9											21
29	1										11								
30	1	5			6			7		9			11		13				
31	1											9							
32	1		4				5												
33	1												7						
34	1			3															

																			
		Valid for transmission ratio 40 : 1																	
Division	**Circles**	**Pitch circle**																	
		15	**16**	**17**	**18**	**19**	**20**	**21**	**23**	**27**	**29**	**31**	**33**	**37**	**39**	**41**	**43**	**47**	**49**
35	1							3											7
36	1				2					3									
37	1													3					
38	1					1													
39	1														1				
40	1																		
41	0															40			
42	0							20											
43	0																40		
44	0												30						
45	0				16					24									
46	0								20										
47	0																	40	
48	0				15														
49	0																		40
50	0	12					16												
52	0														30				
54	0									20									
55	0												24						
56	0							15											35
58	0										20								
60	0	10			12			14		18			22		26				
62	0											20							
64	0		10																
65	0														24				
66	0												20						
68	0			10															
70	0							12											28
72	0				10					15									
74	0													20					
75	0	8																	
76	0					10													
78	0														20				
80	0		8		9		10												
82	0															20			
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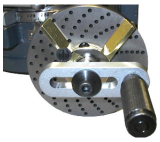		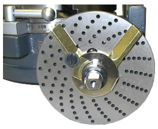																	
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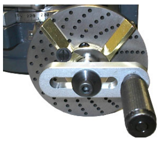
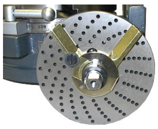
Division	Circles	Pitch circle																	
		15	16	17	18	19	20	21	23	27	29	31	33	37	39	41	43	47	49
92	0								10										
94	0																	20	
95	0					8													
98	0																		20
100	0	6					8												
104	0														15				
105	0							8											
108	0									10									
110	0												12						
115	0								8										
116	0										10								
120	0	5			6			7		9			11		13				
124	0											10							
128	0		5																
130	0														12				
132	0												10						
135	0									8									
136	0			5															
140	0							6											14
144	0				5														
145	0										8								
148	0													10					
150	0	4																	
152	0					5													
155	0											8							
156	0														10				
160	0		4				5												
164	0															10			
165	0												8						
168	0							5											
170	0			4															
172	0																10		
180	0				4					6									
184	0								5										
185	0													8					
188	0																	10	
190	0					4													
195	0														8				
196	0																		10
200	0	3					4												

																			
		Valid for transmission ratio 40 : 1																	
Division	Circles	Pitch circle																	
		15	16	17	18	19	20	21	23	27	29	31	33	37	39	41	43	47	49
205	0															8			
210	0							4											
215	0																8		
216	0									5									
220	0												6						
230	0								4										
232	0										5								
235	0																	8	
240	0				3														
245	0																		8
248	0											5							
260	0														6				
264	0												5						
270	0									4									
280	0							3											7
290	0										4								
296	0													5					
300	0	2																	
310	0											4							
312	0														5				
320	0		2																
328	0															5			
330	0												4						
340	0			2															
344	0																5		
360	0				2					3									
370	0													4					